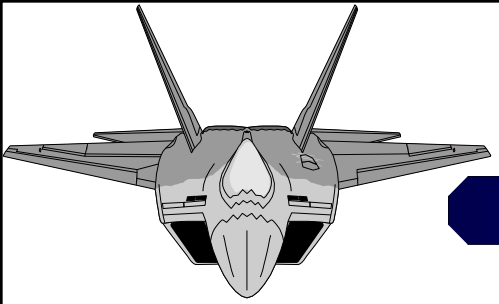
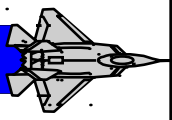


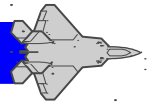
ESC CXC



AWSIM 2

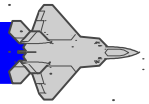
Lt Brian Clifford

AWSIM 2.1- What Is It?



- **Real-time, interactive, two-sided, time-stepped entity-level simulation**
  - **Used by Air Component Commanders, their staffs, and other organizations to educate/train/develop doctrine and tactics, formulate/assess operational plans, and assess warfighting situations**
  - **Exercise training audience plays against a thinking, interactive OPFOR**
    - **Opposing sides define, structure, and control their forces**
  - **60 and 10 second game cycles**
    - **Interfaces to other service simulations**
    - **Interfaces to virtual simulations**

AWSIM 2.1- What Is It?

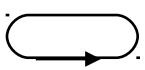


- **Planning, tasking, and execution similar to real-world procedures at Air Operations Center (AOC)**
  - **ATO is the primary player input via CTAPS/TBMCS, translated by response cells using semi-automated tools into AWSIM orders**
  - **Engagements evaluated at shooter/weapon/target level**
  - **Interactions with other models for ground, naval, EW combat**
  - **Results translated into operational and intel reports by combination of response cells and automated tools, interface to real-world C4I systems**
  - **Stimulus for real-world C4ISR system testing and training**

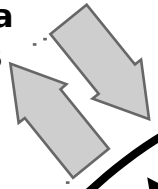
AWSIM 2 - Game Cycle

AFSOM Briefing

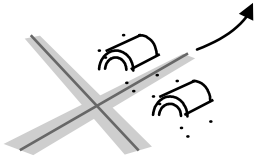
- Interfaces with other models
- Synchronize clocks
- Exchange data
- Export results



- Move aircraft, ships, SAM sites
- Navigate & expend fuel
- Defined routes & orbits, or manual control



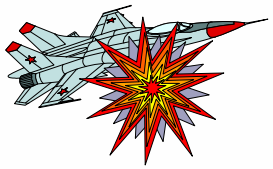
Motion



- Evaluate damage based on shooter, weapon, & target
- Change status & report

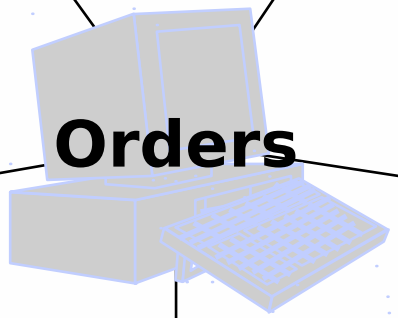
Nominal 1-minute game cycle (ALSP)

Damage

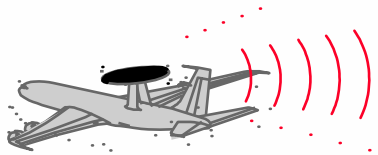


Flightline Ops

- Launch & recover acf
- Shelter/unshelter acf
- Sortie generation & r
- Load/unload munitio



Orders



Engagement

Detection

- Air-to-air
- Surface-to-air
- Air-to-surface
- Expend weapons
- Manual or automatic pairing

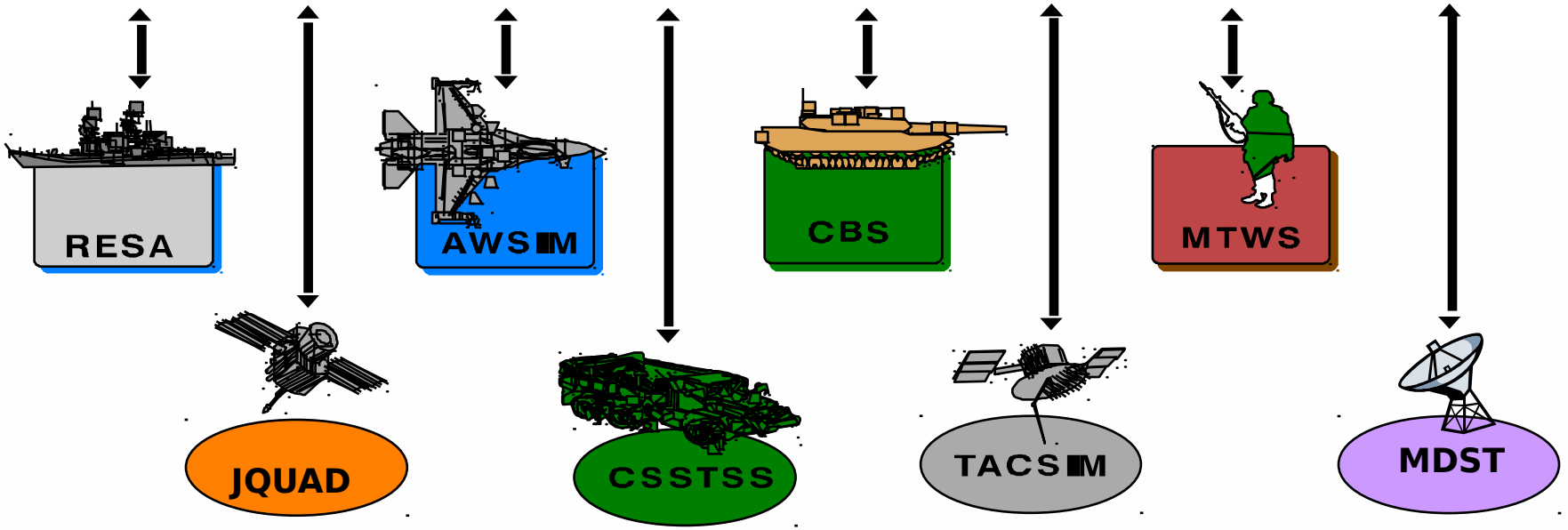
- Radar & visual detection
- By aircraft & surface site
- Active & passive (ESM)
- Considers RCS, day/night horizon

Joint Training Confederation

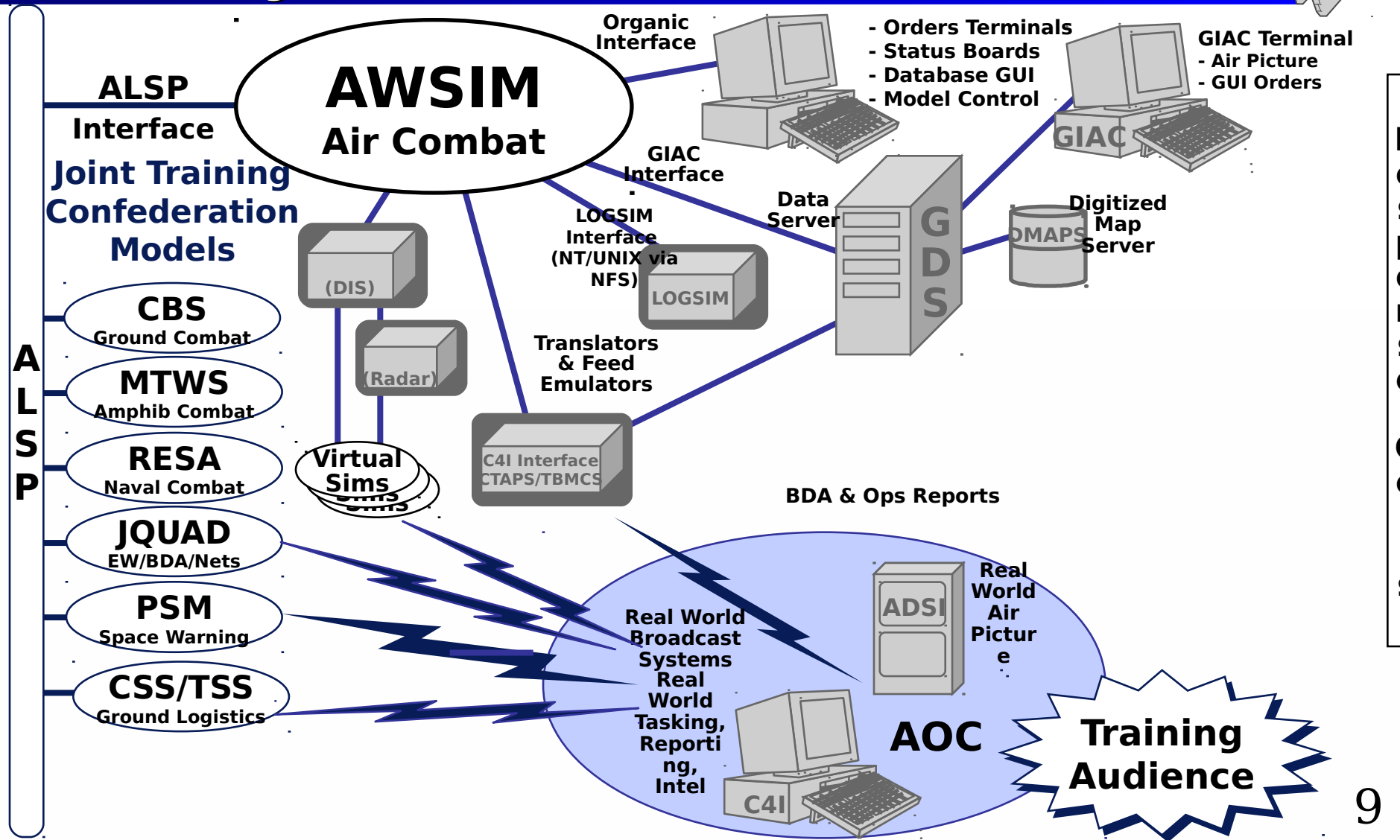
AFSOM Briefing

ALSP

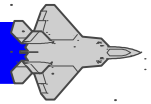
AGGREGATE LEVEL SIMULATION PROTOCOL



Interfaces w/Joint Training Confederation

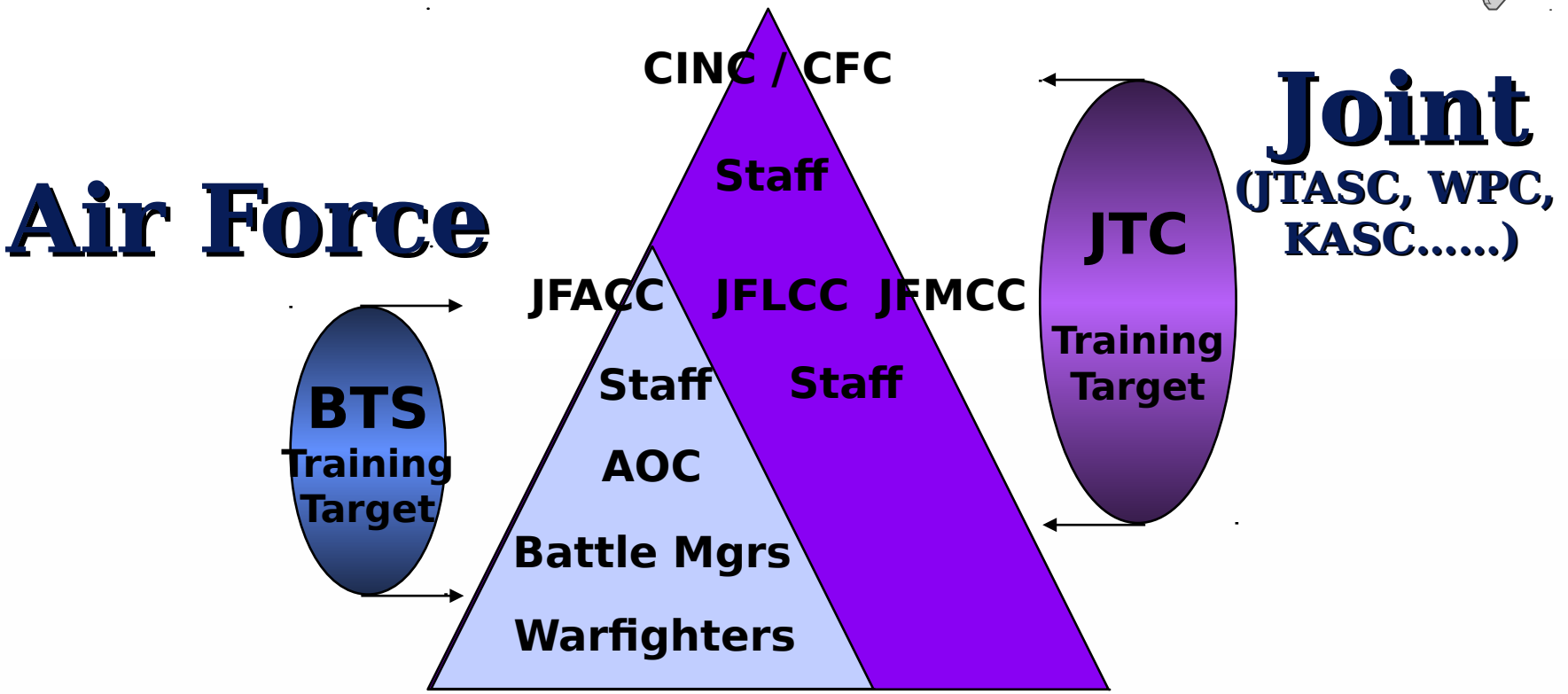


Current Capability



- **Development/support team providing worldwide support to AF readiness training and experimentation**
  - **Ulchi Focus Lens, USFK**
  - **Blue Flag, ASC2ISRC and CONUS NAFs**
  - **Union Flash, USAFE WPC**
  - **Prairie Warrior, Ft Leavenworth, KS**
  - **Expeditionary Force Experiments**
  - **Unified Endeavor, Roving Sands, TMDI; JTASC, Suffolk,VA**
- **Soup-to-Nuts Technical Support for:**
  - **AWSIM/AFSOM operation in exercises/experiments**
  - **Interfaces to CTAPS and TBMCS**
  - **Interfaces to other models and tools**
    - **LOGSIM; Distributed Interactive Simulation (DIS)**

Mission Distinctions - AF vs Joint



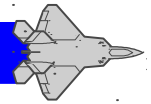
BTS environment

- AF training, not Joint ("Joint flavor")
- Mostly scripted ground/naval combat results
- Emphasis on C2, procedural training
- Large focus on DIS environment

Joint Training Confederation

- Joint training, full play by other services/nations
- Requires ALSP environment
- EUCOM / NATO focus

AWSIM Related Organizations

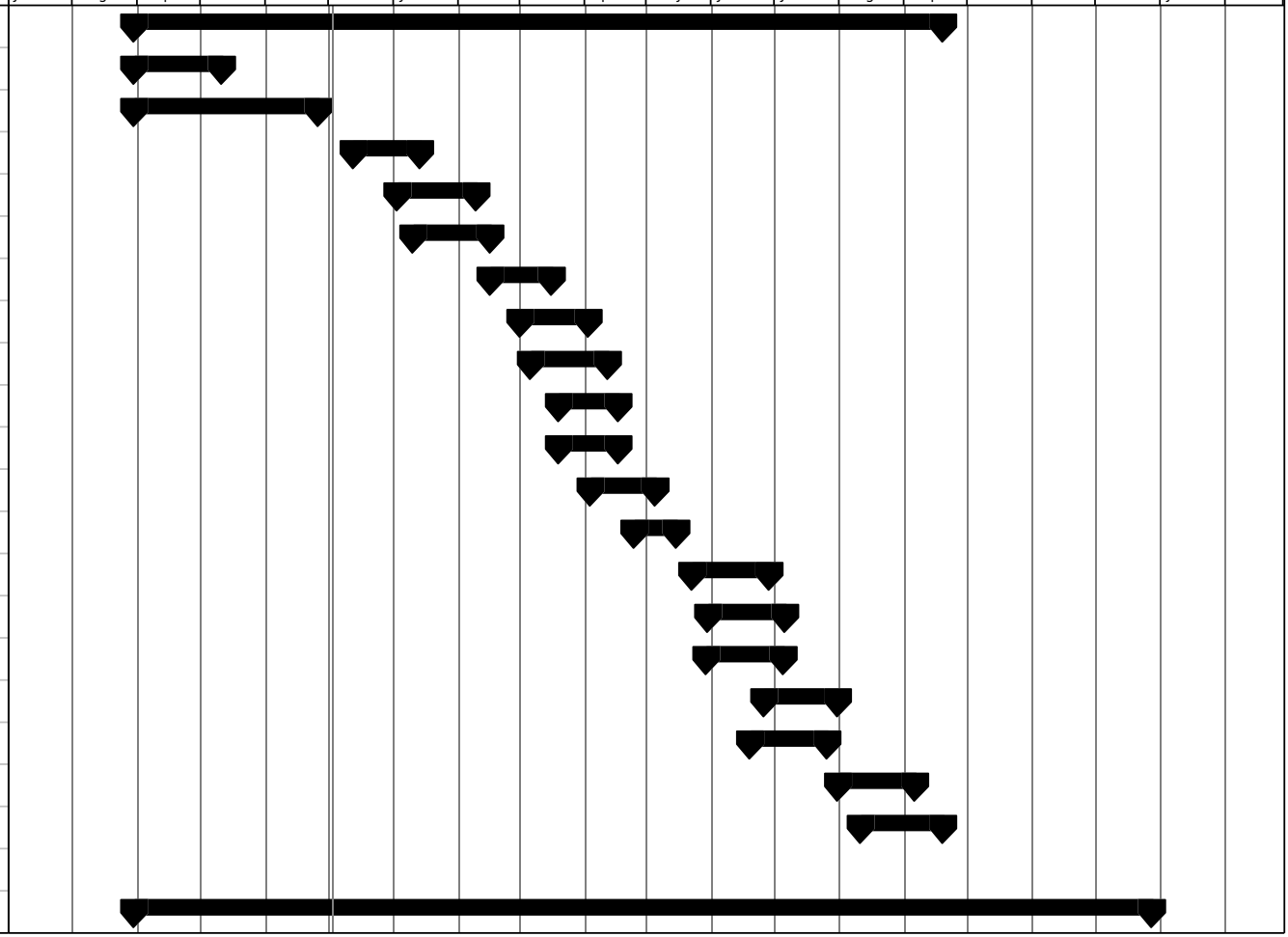


- **USAF/XOCA**
  - Provides Program Direction and Resources
- **Air Force Agency for Modeling and Simulation (AFAMS)**
  - Liaison between Development Agent and Users for Modeling and Simulation Requirements
- **Electronic Systems Center (MS& Combined Test)**
  - Development Agent (DA)
  - Program/Contract Management
- **Raytheon/Hughes**
  - Technical Implementation and Software Development (Prime Contractor)

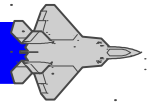
AFSOM Site Support in 2000

AFSOM Briefing

ID	Task Name
266	**00 Site Engineering**
267	**Blue Flag 99-4**
273	**General Site Eng & Hanscom Support**
282	**Roving Sands Sys Test**
288	**00 JTC AAI**
294	**00 Yama Sakura**
300	**Blue Flag 00-2**
306	**JEFX Spiral 1**
312	**00 JTC CT**
318	**Blue Flag 00-3**
324	**RSOI**
330	**JEFX Spiral 2**
336	**Roving Sands Tech Test**
341	**Prairie Warrior**
347	**00 Roving Sands**
353	**00 UFL Load Test**
359	**Blue Flag 00-4**
365	**00 JEFX Spiral 3**
371	**00 UFL**
377	**00 JEFX Execution**
383	
384	**ATI/ACI**

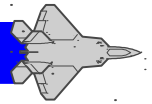


JTC Related Issues



- **Looking at SIPRNet capability for remote support from Hanscom**
- **Looking at T1 from CUBE at Hanscom for support and additional test opportunities**

Summary



- **AF M&S investment strategy is consistent and focussed across ESC and AFAMS partners**
- **AF leading the way in current combat simulations and readiness exercises**
  - **Exercises have never been more reliable, flexible or consistent**
- **Through NASM support to JSIMS, the AF is leading the way in M&S support for next generation combat simulations**